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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/757,937

01/16/2004

David Jonathan Hall

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EXAMINER

SHAHRESTANI, NASIR

ART UNIT

PAPER NUMBER

3737

MAIL DATE

DELIVERY MODE

09/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------------|--|
| Office Action Summary | Application No. 10/757,937 | Applicant(s) HALL, DAVID JONATHAN | |
| | Examiner NASIR SHAHRESTANI | Art Unit 3737 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9 and 11-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9 and 11-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/19/2009 has been entered.

Response to Arguments

Applicant's arguments filed 06/19/2009 have been fully considered but they are not persuasive. Initially, applicant has argued that the claim amendments overcome the rejection under 35 USC 102 in view of Wake. Examiner respectfully disagrees. Examiner points to the Applicant's comments stating "the applicant now claims a method and system that collect light only for selected time-gates, and not for a series of consecutive time gates as Wake discloses" (see page 2 of REMARKS). Examiner is not able to find the mentioned limitation in the method claim language. There is no language in the body of the claim which points to applicant's statement. The statement is only found within system claim 24. In response to applicant's argument that the prior art doesn't teach the aforementioned limitations, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Section 2114 of the MPEP states (with emphasis in the original), "Apparatus claims cover what a device *is*, not what a device *does*." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464,

Art Unit: 3737

1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).” Section 2113 of the MPEP states, “A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987.” Section 2114 of the MPEP states, “While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997).”

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-9, 11-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 24 recite the limitation "the object" and “said object”. There is insufficient antecedent basis for this limitation in the claim. The limitations should be positively claimed in the body of the claim language and not just the preamble in order be deemed proper.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 3737

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-5, 15, 18-27 rejected under 35 U.S.C. 102(e) as being anticipated by Wake
(US 2002/0100864 A1)

Wake teaches a method and corresponding system for optical imaging comprising the steps of injecting a pulse of light at an injection port into an object (fig. 1 and 2); collecting at collection ports, light from said object (par. [0020]), to provide an optical signal based TPSF (par. [0022]); and detecting on or more selected time gates of said TPSF to provide information to be used in producing an optical image of said scattering object (par. [0022]).

Wake further teaches wherein said light from said object is collected at two or more locations (detectors 12); wherein desired temporal delays are introduced in propagation of the optical signals (fig. 9A) to produce time delayed TPSF's (circuit 106) and wherein all of said selected time-gates are simultaneously detected (par. [0060]); and further teaches wherein the detector positions are proximal (fig. 2).

Wake further teaches the use of a fiber optic cable or bundle of varying lengths for directing a laser beam (par. [0020]), which can be adjusted to introduce the desired delays (par. [0080]) being coupled to one or more detectors and applied to a distinct detecting position (fig. 6).

Wake further teach a time delay circuit (element 106) which introduces a time delay to fine tune the synchronization pulse (par. 0082) and a programmable delay chip which in conjunction with a time-gating signal (element 128) which samples a portion of the TPSF curve that will be coupled an integrator (par. 0083).

Art Unit: 3737

Furthermore, Wake teaches a time-gating circuit used at regular intervals of time during the occurrence of the output (see abstract). Hence, it is clear that Wake teaches "sequential time-gating". Wake also teaches that breast tissue causes the photon beam to scatter, resulting in a zig-zag-like course (par. 0071). The plurality of photon beams (fig. 4, elements A, B, C, D, etc.) are considered to be "staggered" and these "staggered" collection of beams are collected.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wake (US 2002/0100864 A1) in view of Grable (US 5,692,511).

Wake teaches all the limitations of claims 1 and 5, but does not teach the basis of selecting time-gates.

Grable teaches the measurement criteria considering properties of light and thickness of the desired medium to be measured (col. 12 lines 60-62).

It would have been obvious to one of ordinary skill in the art to have modified Wake and to further include the considerations as taught by Grable in order to provide for optimal measurement of the medium and to reduce diagnosis time by selecting appropriate time-gates.

Claims 13-14, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wake (US 2002/0100864 A1) in view of Mukherjee et al. (US 2002/0067901).

Wake teaches all the limitations of claims 1 and 12 but do not teach using a time-gated camera being and ICCD camera.

Mukherjee teaches the aforementioned limitation wherein an object or medium is imaged using a fast time-gated camera such as an ICCD camera (par. [0039]).

Art Unit: 3737

It would have been obvious to one of ordinary skill in the art to have modified Wake and to provide ICCD cameras in place of the aforementioned detectors to provide for accurate imaging of a dynamically evolving entity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NASIR SHAHRESTANI whose telephone number is (571)270-1031. The examiner can normally be reached on Mon.-Thurs: 7:30-5:00, 2nd Friday: 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/
Supervisory Patent Examiner, Art Unit
3737

/Nasir Shahrestani/
Examiner, Art Unit 3737

Application/Control Number: 10/757,937

Page 7

Art Unit: 3737